

What is claimed is

1. A process for bonding wood base elements to plastic, in particular for production of functional elements, by means of an injection-molding process in which the wood base element is inserted into an injection mold and, at the previously selected sites, plastics melt is injected and irreversibly changes the shape of the wood base element, which comprises

setting the process parameters during the injection-molding process in such a way that the plastics melt forms depressions (2a, 15a, 32a, 41) acting in the manner of undercuts on the surface of the wood base element (2, 12, 29, 33).

2. The process as claimed in claim 1, wherein at least one embedment (15, 32, 39) at least substantially running in the direction of the wood fibers is formed in the wood base element (12, 29, 33).

3. The process as claimed in claim 1, wherein at least one embedment (18, 51) composed of plastic and at least substantially running perpendicularly to the direction of the wood fibers is formed in the wood base element (17, 47).

4. The process as claimed in any of claims 1 to 3, wherein the plastics embedments (15, 32, 39) and/or the plastics-filled depressions (2a, 15a, 32a, 41) and the like are formed at sites on the wood base element which have

previously been specified during a design process.

5. The process as claimed in any of claims 1 to 4, wherein the plastics melt is injection-molded onto the wood base element in such a way that no injected material visibly protrudes at any outer side.

6. The process as claimed in any of claims 1 to 5, wherein the injection pressure in the injection-molding system is selected to be from 10 bar to 2500 bar.

7. The process as claimed in any of claims 1 to 6, wherein the mold cavity pressure set is from 50 bar to 1400 bar.

8. The process as claimed in any of claims 1 to 7, wherein the plastic is a thermoplastic.

9. The process as claimed in any of claims 1 to 8, wherein the temperature of the plastics melt is selected to be from +130°C to 400°C.

10. The process as claimed in any of claims 1 to 7, wherein the plastic is a reactive material, such as an elastomer or thermoset.

11. The process as claimed in any of claims 1 to 7 and 10, wherein the temperature of the flowable plastic is selected to be room temperature or higher.

12. The process as claimed in any of claims 1 to 11, wherein the injection time for the plastic is selected to be in the range from a few tenths of one second to a few seconds.

13. The process as claimed in any of claims 1 to 12, wherein the wood base element has been produced from balsa, spruce, oak, or beech, or from types of wood whose property profile is within that of these types of wood.

14. The process as claimed in any of claims 1 to 13, wherein the linear dimension of the depression(s) and/or embedment(s) is from 1 mm to two or more centimeters.

15. A wood-plastic composite component which has been produced by the process as claimed in one or more of claims 1 to 14.

16. The wood-plastic composite component as claimed in claim 15, which is sports equipment, an office requisite, a window, a door, an item of furniture, a floor covering, a toy, a packaging product, a machinery component or a vehicle component, a musical instrument, a hand tool, or the like.